1. A purified antibody that preferentially binds a T cell antigen receptor (TCR), wherein said antibody preferentially binds a CDR3-loop or an α-β junction of said TCR; or preferentially binds or modulates the expansion or activation of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, and JαQ$^+$ T cells.

2. The purified antibody of claim 1, that preferentially binds and preferentially expands an invariant T cell.

3. The purified antibody of claim 1, that preferentially binds the antigen binding site of the TCR of said T cell subpopulation.

4. A combination of purified antibodies that preferentially binds a TCR, wherein said antibody combination preferentially binds a CDR3-loop or an α-β junction of said TCR; or preferentially binds or modulates the expansion or activation of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, and JαQ$^+$ T cells; wherein said antibody combination is selected from the group consisting of:

(i) an anti-Vα24 antibody and an anti-CD161 antibody;

(ii) an anti-Vα24 antibody and an anti-CD94 antibody;

(iii) an anti-Vβ11 antibody and an anti-CD161 antibody; and

(iv) an anti-Vβ11 antibody and an anti-CD94 antibody.

5. A fragment or derivative of an antibody, wherein said antibody preferentially binds a CDR3-loop or an α-β junction of a TCR; or preferentially binds or modulates the expansion or activation of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, and JαQ$^+$ T cells.

6. A bifunctional antibody comprising:

(a) a first antibody or fragment thereof that preferentially binds a CDR3-loop or an α-β junction of a TCR; or preferentially binds or modulates the expansion or activation of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, and JαQ$^+$ T cells; wherein said first antibody or fragment binds a first epitope; and

(b) a second antibody or fragment thereof that binds a second epitope expressed on a T cell expressing said TCR or expressed on a NK T cell, CD1d-reactive T cell, or JαQ$^+$ T cell that is bound by said first antibody or fragment thereof.

7. A stable hybridoma that produces an antibody, wherein said antibody preferentially binds a CDR3-loop or an α-β junction of a TCR; or preferentially binds or modulates the expansion or activation of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, and JαQ$^+$ T cells.

8. A purified T cell subpopulation, wherein said T cells are specifically bound by an antibody or a combination of antibodies, wherein said antibody or said antibody combination preferentially binds a CDR3-loop or an α-β junction of

a TCR; or wherein said antibody preferentially binds or modulates the expansion or activation of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, and JαQ$^+$ T cells.

9. A method of generating an antibody that preferentially binds a CDR3-loop or an α-β junction of a TCR; or preferentially binds or modulates the expansion or activation of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, and JαQ$^+$ T cells; said method comprising:

(a) coupling a cyclic peptide to a carrier;

(b) immunizing a mammal with said coupled peptide; and

(c) isolating an antibody that preferentially binds a CDR3-loop or an α-β junction of a TCR; or preferentially binds or modulates the expansion or activation of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, and JαQ$^+$ T cells.

10. A method of generating an antibody that preferentially binds a CDR3-loop or an α-β junction of a TCR; or preferentially binds or modulates the expansion or activation of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, and JαQ$^+$ T cells; said method comprising:

(a) immunizing a CD1 or invariant T cell deficient mammal with invariant T cells; and

(b) isolating an antibody that preferentially binds a CDR3-loop or an α-β junction of a TCR; or preferentially binds or modulates the expansion or activation of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, and $J\alpha Q^+$ T cells.

11. The method of claim 9 or 10, wherein said mammal is a CD1d knockout mouse, a mammal tolerized to NK T cells, a mammal tolerized to CD1d-reactive T cells, a mammal tolerized to $J\alpha Q^+$ T cell, a mammal tolerized to the invariant TCR, a mammal in which invariant T cells have been removed, a mammal lacking part of the α chain of said TCR α chain, or a mammal lacking part of the β chain of said TCR.

12. A method of measuring the amount of NK TCRs or the amount of NK T cells in a sample, said method comprising contacting said sample with an antibody that preferentially binds a CDR3-loop, an antigen binding site, or an α-β junction of said TCRs.

13. A method of measuring the amount of CD1d-reactive TCRs or the amount of CD1d-reactive T cells in a sample, said method comprising contacting said sample with an antibody that preferentially binds a CDR3-loop, an antigen binding site, or an α-β junction of said TCRs.

14. A method of measuring the amount of $J\alpha Q^+$ TCRs or the amount of $J\alpha Q^+$ T cells in a sample, said method comprising contacting said sample with an

antibody or a combination of antibodies that preferentially binds a CDR3-loop, an antigen binding site, or an α-β junction of said TCRs.

15. A method of visualizing the NK TCRs or the NK T cells in a sample, said method comprising contacting said sample with an antibody that preferentially binds a CDR3-loop, an antigen binding site, or an α-β junction of said TCRs.

16. A method of visualizing the CD1d-reactive TCRs or the CD1d-reactive T cells in a sample, said method comprising contacting said sample with an antibody that preferentially binds a CDR3-loop, an antigen binding site, or an α-β junction of said TCRs.

17. A method of visualizing the $J\alpha Q^+$ TCRs or the $J\alpha Q^+$ T cells in a sample, said method comprising contacting said sample with an antibody or a combination of antibodies that preferentially binds a CDR3-loop, an antigen binding site, or an α-β junction of said TCRs.

18. A method of diagnosing a subject with a condition or an increased risk for a condition selected from the group consisting of autoimmune disease, viral infection, bacterial infection, parasitic infection, infection by a eukaryotic pathogen, allergy, asthma, inflammatory condition, graft versus host disease, graft rejection, immunodeficiency disease, spontaneous abortion, pregnancy, and cancer; said method comprising the following:

(a) contacting a sample from said subject with an antibody or a combination of antibodies that preferentially binds a CDR3-loop or an α-β junction of a TCR; or an antibody that preferentially binds or modulates the expansion or activation of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, and $J\alpha Q^+$ T cells;

(b) quantitating the amount of said antibody or said antibody combination bound to said TCR or said T cells; thereby determining the amount of T cells of interest in said sample; and

(c) comparing the amount of said T cells of interest in said sample to the amount of said T cells of interest found in subjects diagnosed with said condition or subjects not diagnosed with said condition.

19. The method of claim 18, further comprising comparing the amount of another T cell type in said sample with the amount of said another T cell type found in subjects diagnosed with said condition or subjects not diagnosed with said condition.

20. A method of treating or preventing an autoimmune disease, viral infection, bacterial infection, parasitic infection, infection by a eukaryotic pathogen, allergy, asthma, inflammatory condition, graft versus host disease, graft rejection, immunodeficiency disease, spontaneous abortion, pregnancy, or cancer in a mammal, said method comprising administering to said mammal an antibody or a combination of antibodies that preferentially binds a CDR3-loop or an α-β junction of a TCR; or preferentially binds or modulates the expansion or

activation of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, and $J\alpha Q^+$ T cells.

21. A method of inhibiting T cell pathogenesis in a mammal, said method comprising administering to said mammal an antibody or a combination of antibodies that preferentially binds a CDR3-loop, an antigen binding site, or an α-β junction of said TCRs; or inhibits the expansion of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, and $J\alpha Q^+$ T cells; said administering sufficient to inhibit a T cell expressing said TCR, a NK T cell, a CD1d-reactive T cell, or a $J\alpha Q^+$ T cell.

22. The method of claim 21, wherein said antibody is covalently linked to a toxin or a radiolabel.

23. A method of increasing the size of a subpopulation of T cells, said method comprising contacting a sample comprising said T cells with an antibody that preferentially binds or modulates the expansion or activation of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, $J\alpha Q^+$ T cells, and T cells expressing a CDR3-loop or an α-β junction of a TCR that is preferentially bound by said antibody, wherein said contacting occurs under conditions that result in an increase in the number of said T cells.

24. The method of claim 23, further comprising contacting said sample with an antigen and antigen presenting cells under conditions that allow said

contacting to increase the number of said T cells; wherein said antigen is not α-galactosylceramide.

25. The method of claim 24, wherein said antigen is a lipid or glycosyl-phosphatidylinositol antigen from an infectious pathogen, an antigen from a cancerous cell, or a self-lipid.

26. The method of claim 23, further comprising contacting said sample with an antigen and antigen presenting cells under conditions that allow said contacting to increase the number of said T cells; wherein said antigen is α-galactosylceramide.

27. A method of increasing the size of a subpopulation of T cells, said method comprising:

(a) contacting a sample comprising said T cells with an antibody or a combination of antibodies that preferentially binds a CDR3-loop or an α-β junction of a TCR; or an antibody that preferentially binds or modulates the expansion or activation of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, and $J\alpha Q^+$ T cells; said contacting conducted under conditions that allow complex formation between said T cells and said antibody or said combination of antibodies;

(b) isolating said complex; and

(c) contacting said T cells in said complex or recovered from said complex with an antigen and antigen presenting cells under conditions that allow said

contacting to increase the number of said T cells; wherein said antigen is not α-galactosylceramide.

28. The method of claim 27, wherein said antigen is a lipid or glycosyl-phosphatidylinositol antigen from an infectious pathogen, an antigen from a cancerous cell, or a self-lipid.

29. A method of increasing the size of a subpopulation of T cells, said method comprising:

(a) contacting a sample comprising said T cells with an antibody or a combination of antibodies that preferentially binds a CDR3-loop or an α-β junction of a TCR; or an antibody that preferentially binds or modulates the expansion or activation of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, and $J\alpha Q^+$ T cells; said contacting conducted under conditions that allow complex formation between said T cells and said antibody or said combination of antibodies;

(b) isolating said complex; and

(c) contacting said T cells in said complex or recovered from said complex with an antigen and antigen presenting cells under conditions that allow said contacting to increase the number of said T cells; wherein said antigen is wherein said antigen is α-galactosylceramide.

30. The method of claim 27 or 29, further comprising contacting said sample or said complex with one or more cytokines.

31. A method of increasing the size of a subpopulation of T cells in a mammal, said method comprising:

(a) obtaining a sample comprising said T cells from said mammal;

(b) contacting said T cells with an antibody or a combination of antibodies that preferentially binds or modulates the expansion or activation of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, $J\alpha Q^+$ T cells, and T cells expressing a CDR3-loop or an α-β junction of a TCR that is preferentially bound by said antibody or said antibody combination; said contacting conducted under conditions that allow said contacting to increase the number of said T cells; and

(c) administering said contacted T cells to said mammal.

32. The method of claim 31, further comprising purifying said T cells prior to said contacting step or after said contacting step.

33. A method of increasing the size of a subpopulation of T cells in a mammal, said method comprising:

(a) obtaining a sample comprising said T cells from said mammal;

(b) contacting said T cells with an antibody or a combination of antibodies that preferentially binds a CDR3-loop or an α-β junction of a TCR; or an antibody that preferentially binds or modulates the expansion or activation of at least one T

cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, and JαQ$^+$ T cells; said contacting conducted under conditions that allow complex formation between said T cells and said antibody or said combination of antibodies;

(c) isolating said complex; and

(d) contacting said T cells in said complex or recovered from said complex with an antigen and antigen presenting cells under conditions that allow said contacting to increase the number of said T cells; wherein said antigen is not α-galactosylceramide; and

(e) administering said contacted T cells to said mammal.

34. The method of claim 33, wherein said antigen is a lipid or glycosyl-phosphatidylinositol antigen from an infectious pathogen, an antigen from a cancerous cell, or a self-lipid.

35. A method of increasing the size of a subpopulation of T cells in a mammal, said method comprising:

(a) obtaining a sample comprising said T cells from said mammal;

(b) contacting said T cells with an antibody or a combination of antibodies that preferentially binds a CDR3-loop or an α-β junction of a TCR; or an antibody that preferentially binds or modulates the expansion or activation of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, and JαQ$^+$ T cells; said contacting conducted under conditions that allow complex

formation between said T cells and said antibody or said combination of antibodies;

(c) isolating said complex; and

(d) contacting said T cells in said complex or recovered from said complex with an antigen and antigen presenting cells under conditions that allow said contacting to increase the number of said T cells; wherein said antigen is α-galactosylceramide; and

(e) administering said contacted T cells to said mammal.

36. The method of claim 33 or 35, further comprising administering one or more cytokines to said mammal.

37. The method of claim 33 or 35, further comprising contacting said sample or said T cells with one or more cytokines, wherein said contacting alters the ratio of Th1/ Th2/ immune deviation response by said contacted T cells

38. The method of claim 33 or 35, wherein said method is used in the treatment or prevention of an autoimmune disease, viral infection, bacterial infection, parasitic infection, infection by a eukaryotic pathogen, allergy, asthma, inflammatory condition, graft versus host disease, graft rejection, immunodeficiency disease, spontaneous abortion, pregnancy, or cancer in said mammal.

39. A method of purifying a subpopulation of T cells from a sample, said method comprising contacting said sample with an antibody or a combination of antibodies that preferentially binds a CDR3-loop or an α-β junction of a TCR; or an antibody that preferentially binds or modulates the expansion or activation of at least one T cell subpopulation selected from the group of NK T cells, CD1d-reactive T cells, and $J\alpha Q^+$ T cells.

40. The method of claim 39, further comprising contacting said sample with an anti-Vα24, CD4, CD8, CD56, CD161, or Vβ11 antibody.

41. The method of claim 39, wherein said antibody is covalently linked to a fluorescent label, wherein said complex is isolated based on the fluorescence signal of said complex.

42. The method of claim 39, wherein said antibody is covalently linked to a magnetic label, wherein said complex is isolated based on the magnetism of said complex.